

Appl. No. 10/708,331
Amdt. dated May 17, 2006
Reply to Office action of February 17, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 5 1. (currently amended) A back light unit comprising:

a light source generator positioned in a backside of a display panel for providing light beams to the display panel;

a diffuser positioned between the light source generator and the display panel for uniformly scattering light beams from the light source generator to the display panel; and

- 10 a housing enclosing the light source generator and connecting to the diffuser for reflecting the light beams to the diffuser, the housing further comprising a heat pipe for being a heat transfer interface between the back light unit and an external environment[.];

- 15 wherein the heat pipe overlapping the diffuser in a direction as the light beams entering the display panel from the light source generator.

2. (original) The back light unit of claim 1, wherein the heat pipe is composed of metal materials.

- 20 3. (original) The back light unit of claim 1, wherein the material of the heat pipe is selected from copper, alumina, tin, or an alloy of any of the above metal materials.

4. (original) The back light unit of claim 1, wherein the heat pipe is a solid heat-conductive pipe.

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5. (original) The back light unit of claim 1, wherein the heat pipe is a hollow heat-conductive pipe, and an inner portion of the hollow heat-conductive pipe contains a cooling liquid.

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6. (original) The back light unit of claim 1, wherein the heat pipe is connected to the external environment through a radiator piece for transferring heat to the external environment effectively.

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7. (previously presented) The back light unit of claim 1, wherein the heat pipe is positioned at a contact point of the diffuser and an upside of the housing.

8. (original) The back light unit of claim 1, wherein the light source generator comprises a fluorescent tube.

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9. (original) The back light unit of claim 8, wherein the heat pipe is positioned directly below the fluorescent tube, and a surface of the heat pipe contains a radiative reflective layer for reflecting light beams from the fluorescent tube.

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10. (original) The back light unit of claim 9, wherein the surface of the heat pipe is an arc surface for reducing a rate of light beams emitted from the fluorescent tube being reflected back to the fluorescent tube.

11. (original) The back light unit of claim 1, wherein a contact surface of the heat pipe and the external environment is a rough surface, the rough surface comprising a plurality of sharp teeth so that a radiating area is increased.

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12. (previously presented) The back light unit of claim 1 further comprising a diffusion sheet or a prism positioned on the diffuser.

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13. (currently amended) A back light unit comprising:
a light source generator positioned in a backside of a display panel;

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a diffuser positioned between the light source generator and the display panel; and
a housing enclosing the light source generator and connecting to the diffuser, the housing further comprising a heat pipe having a substantially arc surface[.];

5 wherein the heat pipe overlapping the diffuser in a direction as light beams generated from the light source generator entering the display panel.

14. (previously presented) The back light unit of claim 13, wherein the heat pipe is a solid heat-conductive pipe.

10 15. (previously presented) The back light unit of claim 13, wherein the heat pipe is a hollow heat-conductive pipe, and an inner portion of the hollow heat-conductive pipe contains a cooling liquid.

15 16. (previously presented) The back light unit of claim 13, wherein the heat pipe is connected to the external environment through a radiator piece for transferring heat to the external environment effectively.

17. (previously presented) The back light unit of claim 13, wherein the heat pipe is positioned at a contact point of the diffuser and an upside of the housing.

20 18. (previously presented) The back light unit of claim 13, wherein the heat pipe is positioned directly below the light source generator, and a surface of the heat pipe contains a radiative reflective layer for reflecting light beams from the light source generator.

25 19. (currently amended) A back light unit comprising:
a light source generator positioned in a backside of a display panel;
a diffuser positioned between the light source generator and the display panel; and

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a housing enclosing the light source generator and connecting to the diffuser, the housing further comprising a heat pipe having a rough surface[.];

wherein the heat pipe overlapping the diffuser in a direction as light beams generated from the light source generator entering the display panel.

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20. (previously presented) The back light unit of claim 19, wherein the rough surface comprising a plurality of sharp teeth.

21. (new) A back light unit comprising:

10 a light source generator positioned in a backside of a display panel for providing light beams to the display panel;

a diffuser positioned between the light source generator and the display panel for uniformly scattering light beams from the light source generator to the display panel; and

15 a housing enclosing the light source generator and connecting to the diffuser for reflecting the light beams to the diffuser, the housing further comprising a heat pipe not directly contacting the light source generator for being a heat transfer interface between the back light unit and an external environment.